WHAT IS CLAIMED IS:

1. A method of transmitting data in a power transmission network that has at least one power transmission line, the power transmission line carrying power in the form of time-varying voltage and current, wherein the time-varying current results in interdependent electric and magnetic field components, the method comprising:

transmitting data on the power transmission line using micro electromagnetic pulses to modulate the electric field component according to the data.

2. The method of claim 1 wherein transmitting data comprises:

providing a data signal generator to generate the data; and

providing a micro electromagnetic pulse generator that generates micro electromagnetic pulses in accordance with the data to be transmitted.

3. The method of claim 2 wherein the electromagnetic pulse generator comprises a tripler circuit.

4. The method of claim 3 further comprising:

providing a shunt coil connected to an output of the tripler circuit.

5. The method of claim 2 further comprising:

providing a shunt coil connected to an output of the electromagnetic pulse generator; and

providing a magnetic field directionalizer, wherein the shunt coil is wrapped around the magnetic field directionalizer.

6. The method of claim 5, wherein the magnetic field directionalizer comprises:

a first set of washers made of a non-conducting and non-magnetizing material;

a second set of washers made of a ferroelectric material;

a rod made of material that acts as a magnetic propagator insulator; and

wherein the first set of washers are interspersed with the second set of washers on the rod.

7. The method of claim 6 further comprising:

providing a metallic tube having a polished inner surface; and

disposing the shunt coil and a portion of the transmission line within the metallic tube.

8. A system for transmitting data in a power distribution network that has at least one power transmission line, the power transmission line carrying power in the form of time-varying voltage and current, wherein the time-varying current results in interdependent electric and magnetic field components, the system comprising:

a data signal generator to generate data to be transmitted;

a micro electromagnetic pulse generator that generates electromagnetic pulses in accordance with the data to be transmitted; and

wherein the electromagnetic pulses are used to modulate the electric field component according to the data.

9. The system of claim 8, wherein the electromagnetic pulse generator comprises a tripler circuit.

10. The system of claim 9 further comprising a shunt coil connected to an output of the tripler circuit.

11. The system of claim 10 further comprising a magnetic field directionalizer, wherein the shunt coil is wrapped around the magnetic field directionalizer.

12. The system of claim 11, wherein the magnetic directionalizer comprises:

a first set of washers made of a non-conducting and non-magnetizing material;

a second set of washers made of a ferroelectric material;

a rod made of material that acts as a magnetic propagator insulator; and

wherein the first set of washers are interspersed with the second set of washers on the rod.

13. The system of claim 12 further comprising:

a metallic tube having a polished inner surface; and

wherein the shunt coil and a portion of the transmission line are disposed within the metallic tube.

14. The system of claim 8 further comprising a magnetic field directionalizer coupled to the micro electromagnetic pulse generator, wherein the magnetic field directionalizer induces a polarization leap in the magnetic field component to modulate the electric field component.

15. The system of claim 14 further comprising a collimator adapted to focus the polarization leap in the magnetic field component on an area near the power transmission line.

16. A method for transmitting data in a power transmission network, with the power transmission line carrying power in the form of time-varying voltage and current, the method comprising:

applying an electromagnetic pulse to induce a polarization leap in a magnetic field surrounding the power transmission line; and

detecting a change in an electric field surrounding the power transmission line caused by the polarization leap.

17. The method of claim 16 wherein the change in the electric field is detected at a remote location from a location where the electromagnetic pulse is applied.

18. The method of claim 17 wherein the remote location is at least a mile from the location where the electromagnetic pulse is applied.

19.. The method of claim 17 wherein applying the electromagnetic pulse comprises creating a directional rise in the magnetic field.

20. A system for transmitting data in a power transmission network, with the power transmission line carrying power in the form of time-varying voltage and current, the system comprising:

means for generating a micro electromagnetic pulse; and

means for applying the micro electromagnetic pulse to a magnetic field surrounding the power transmission line to create a directional rise in the magnetic field.

21. The system of claim 20 further comprising means for focusing the directional rise in the magnetic field on an area surrounding the power transmission line.

22. The system of claim 20 further comprising means for generating a data signal, wherein the micro electromagnetic pulse is generated in accordance with the data signal.

23. The system of claim 20 further comprising means for insulating the power transmission line from the means for applying the micro electromagnetic pulse.